

**IN THE DRAWINGS**

Please approve the changes to the drawings as outlined in the attached Letter to the Draftsperson, and as shown in the accompanying revised replacement drawings. Specifically, Figure 2 is being designated as -- Prior Art --, as suggested by the Examiner.

### REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Office Action dated December 28, 2005 (U.S. Patent Office Paper No. 20051213). In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

#### Status of the Claims

As outlined above, claims 1-6 stand for consideration in this application, while claim 1 is being amended to correct formal errors and to more particularly point out and distinctly claim the subject invention.

#### Additional Amendments

The specification and drawings are being amended to correct formal errors and to better disclose and describe the features of the present invention as claimed. All amendments to the application are fully supported therein. Applicant hereby submits that no new matter is being introduced into the application through the submission of this response.

#### Formal Objections

##### Drawings

The drawings were objected to on the grounds that Figure 2 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. The drawings were further objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the reference character "55", which is not mentioned in the description:

Applicant respectfully admits that these are typographical errors. Thus, as suggested by the Examiner, Figure 2 is being designated by --Prior Art--. Furthermore, the specification is being amended to clarify an element to which reference number 55 refers. Accordingly, withdrawal of these objections is respectfully requested.

##### Specification

The disclosure was objected to because of informalities as the disclosure of the invention should not rely on the claims. The disclosure is further objected to because of the

informalities as “the first Zener diode” on page 14, line 10 fails to be referred to with a reference number so as to be consistent with the drawings, and the phrases, “DV operating voltage” and “more compacter” are not proper language.

Applicants respectfully admit these are typographical and grammatical errors. As suggested by the Examiner, the disclosure is being amended. Accordingly, withdrawal of these objections is respectfully requested.

#### Claim 1

Claim 1 was objected to because the end of paragraph 2 of the claim is worded in a way that makes it unclear. As suggested by the Examiner, claim 1 is being amended. Accordingly, withdrawal of this objection is respectfully requested.

#### Prior Art Rejections

##### The first 35 U.S.C. §103(a) rejection

Claims 1-3 and 5 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Beak (US Pat. No. 5,073,837) in view of Crompton (US. Pat. No. 5,708,574). This rejection is respectfully traversed for the reasons set forth below.

According to the Manual of Patent Examining Procedure (M.P.E.P. §2143),

To establish a prima facie case of obviousness, three basis criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both not found in the prior art, not in the applicant's disclosure.

#### Claim 1

The Office Action contends that a power supply detection circuit provided in an electric device comprising therein a power supply circuit (18); an operating voltage output terminal (10) outputting an operating voltage input from the power supply circuit (18); and a control microcomputer (22), the power supply detection circuit comprising:

a first circuit provided between the operating voltage output terminal and a power fail terminal (12) for monitoring the operating voltage of the control microcomputer (22), having

one end connected to the operating voltage output terminal (10) and another end connected to the power fail terminal (12) of the control microcomputer (22), a first switching element (Q2, Q3) controlled to be turned on and off being connected between the one end (10) and the another end (12); and

a third circuit comprising: a second voltage detection element (ZD2) inputting the voltage output from the operating voltage output terminal (10), and detecting whether the input voltage is a proper voltage or an overvoltage or a reduced voltage; and a third switching element (Q4) controlled to be turned on and off in accordance with detection of the voltage by the second voltage detection element (ZD2), and controlling the first switching element (Q2, Q3) to be turned on and off, wherein

if a proper operating voltage is output from the operating voltage output terminal (10), then the second voltage detection element (ZD2) turns on the third switching element (Q4) to thereby turn on the first switching element (Q2, Q3), and the first voltage detection element turns off the second switching element, whereby the first switching element (Q2, Q3) inputs a voltage signal based on the proper operating voltage to the power fail terminal (12) of the control microcomputer (22),

if the overvoltage is output from the operating voltage output terminal (10), then the second voltage detection element (ZD2) turns on the third switching element to thereby turn on the first switching element (Q2, Q3), and

if the reduced voltage is output from the operating voltage output terminal, then the second voltage detection element (ZD2) fails to turn on the third switching element (Q4) to thereby fail to turn on the first switching element, whereby the reduced voltage is prevented from being input to the power fail terminal (12) except that Baek does not disclose a second circuit for providing overvoltage detection.

The Office Action further contends that Crompton discloses a second circuit comprising: a first voltage detection element (160) inputting a voltage output from an operating voltage output terminal of a power supply, and detecting whether the input voltage is an overvoltage; and a second switching element (175) being connected between the operating voltage output terminal (170) and a ground so as to be controlled to be turned on and off in accordance with detection of the overvoltage by the first voltage detection element and turning on and off of the first switching element (160); wherein

if the overvoltage is output from the operating voltage output terminal (179), the first voltage detection element (160) detects the overvoltage to thereby turn on the second

switching element (175), whereby the operating voltage output terminal (170) of the power supply is set at a ground potential. Applicant respectfully disagrees.

Baek is directed to a low voltage protection circuit for preventing overcharging in a back-up battery. Baek shows that a power supply protection circuit is connected to a power supply element to which DC powers are applied. It detects an overvoltage and reduces a voltage at an entry point of the power supply. More precisely, it detects and controls a voltage of every power supply line (5V, 12V, 100 V, etc.) of the entire electric device. Thus, the power supply detection circuits in Baek functions as a protection circuit for the entire electric device.

In contrast, the present invention provides that a power supply detection circuit or a second circuit as recited in claim 1 is connected to a power fail terminal of a control microcomputer. It detects an overvoltage and reduces a voltage at an entry point of the power fail terminal. More precisely, it detects and controls only DC power (12V) applied only to the power fail terminal of the control micro computer.

Furthermore, Baek does not disclose or suggest a power fail terminal for monitoring the operating voltage of the control microcomputer. Contrary to the Office Action, terminal 12 in Baek does not have any function of monitoring the operating voltage of any element.

Crompton is directed to an overvoltage protection to a cable television line amplifier. Crompton shows an overvoltage clamping circuit as a prior art. In this circuit, a current flows and turn on a NPN pass transistor as the potential difference between two terminals increases above the Zener breakdown voltage of the Zener diode. Crompton, however, does not disclose or suggest an end terminal of the circuit having a function of monitoring the operating voltage of the control microcomputer as a power fail terminal.

Furthermore, there is no suggestion or motivation to combine Crompton with Baek explicitly or implicitly in Crompton or Baek, or in the knowledge generally available to one of ordinary skill in the art at the time the invention was made to embody the features of the invention as recited in claim 1. Accordingly, claim 1 is not obvious in view of all the prior art.

#### Claim 2, 3, 5

Claims 2, 3, and 5 are dependent upon the independent claim 1. As such, the arguments set forth above are equally applicable here. The base claim being allowable, dependent claims 2, 3, and 5 must also be allowable.

#### The second 35 U.S.C. §103(a) rejection

Claims 4 and 6 were rejected under 35 U.S.C. §103(a) as being allegedly unpatentable over Baek in view of Crompton, in further view of the acknowledged prior art. This rejection is respectfully traversed for the reasons set forth below.

Claims 4 and 6 depends upon independent claim 1. As such, the arguments set forth above regarding Baek and Crompton are equally applicable here. The acknowledged prior art does not show a power fail terminal for monitoring the operating voltage of the control microcomputer and a second circuit for providing overvoltage detection.

Furthermore, there is no suggestion or motivation to combine Crompton, Baek, and the acknowledged prior art, explicitly or implicitly in Crompton, Baek, and the acknowledged prior art, or in the knowledge generally available to one of ordinary skill in the art at the time the invention was made to embody the features of the invention as recited in claims 4 and 6. Accordingly, claims 4 and 6 are not obvious in view of all the prior art.

#### Conclusion

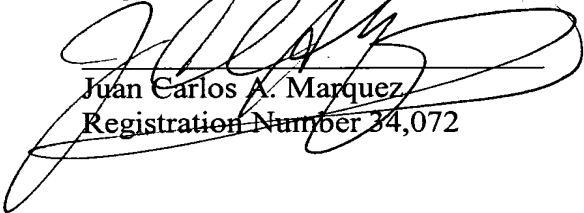
In view of all the above, Applicant respectfully submits that certain clear and distinct differences as discussed exist between the present invention as now claimed and the prior art references upon which the rejections in the Office Action rely. These differences are more than sufficient that the present invention as now claimed would not have been anticipated nor rendered obvious given the prior art. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application as amended is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the above-captioned application, the Examiner is invited to

contact the Applicant's undersigned representative at the address and phone number indicated below.

Respectfully submitted,

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